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Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE 02 DEC 2010		2. REPORT TYPE		3. DATES COVERED 00-00-2010 to 00-00-2010	
4. TITLE AND SUBTITLE Maintaining Sustainability of Forward Operating Bases				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Marine Corps ? Expeditionary Energy Office,2 Navy Annex, Room 1233,Washington,DC,20380-1775				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES Presented at the 15th Annual Partners in Environmental Technology Technical Symposium & Workshop, 30 Nov ? 2 Dec 2010, Washington, DC. Sponsored by SERDP and ESTCP.					
14. ABSTRACT The Marine Corps has launched a major initiative to increase its combat effectiveness by changing the way it uses energy. In August 2009, the Commandant declared energy a top priority, and in November created the Marine Corps Expeditionary Energy Office (E2O). Its mission is to analyze, develop, and direct the Marine Corps? energy strategy to optimize expeditionary capabilities across all warfighting functions. The Marine Corps is focused on energy today not because it wants to but because it has to. Energy is a critical enabler, but is also a growing vulnerability to our ability to serve as an expeditionary force.					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 22	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			



Maintaining Sustainability of Forward Operating Bases



2 Dec 2010

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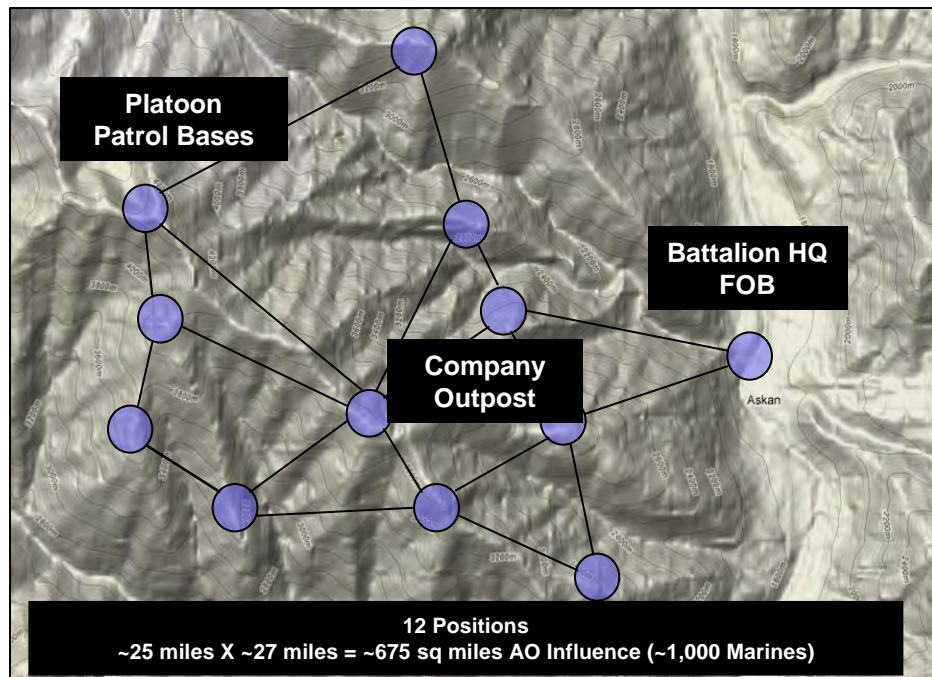
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THE MARINE CORPS' EXPEDITIONARY ENERGY INITIATIVE

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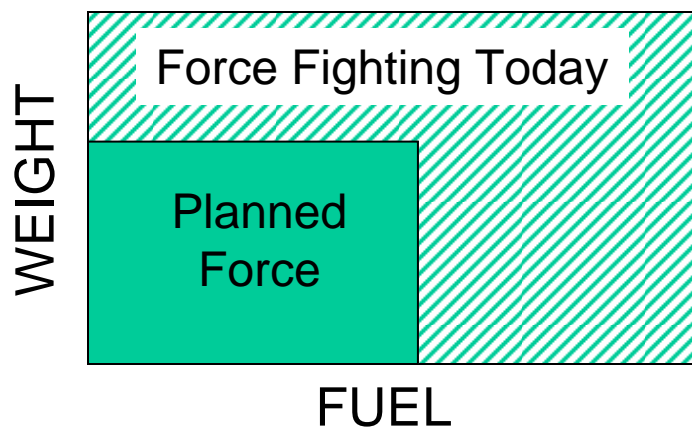
The Marine Corps has launched a major initiative to increase its combat effectiveness by changing the way it uses energy. In August 2009, the Commandant declared energy a top priority, and in November created the Marine Corps Expeditionary Energy Office (E2O). Its mission is to analyze, develop, and direct the Marine Corps' energy strategy to optimize expeditionary capabilities across all warfighting functions. The Marine Corps is focused on energy today not because it wants to but because it has to. Energy is a critical enabler, but is also a growing vulnerability to our ability to serve as an expeditionary force.



“Increased Lethality” Distributed Operations



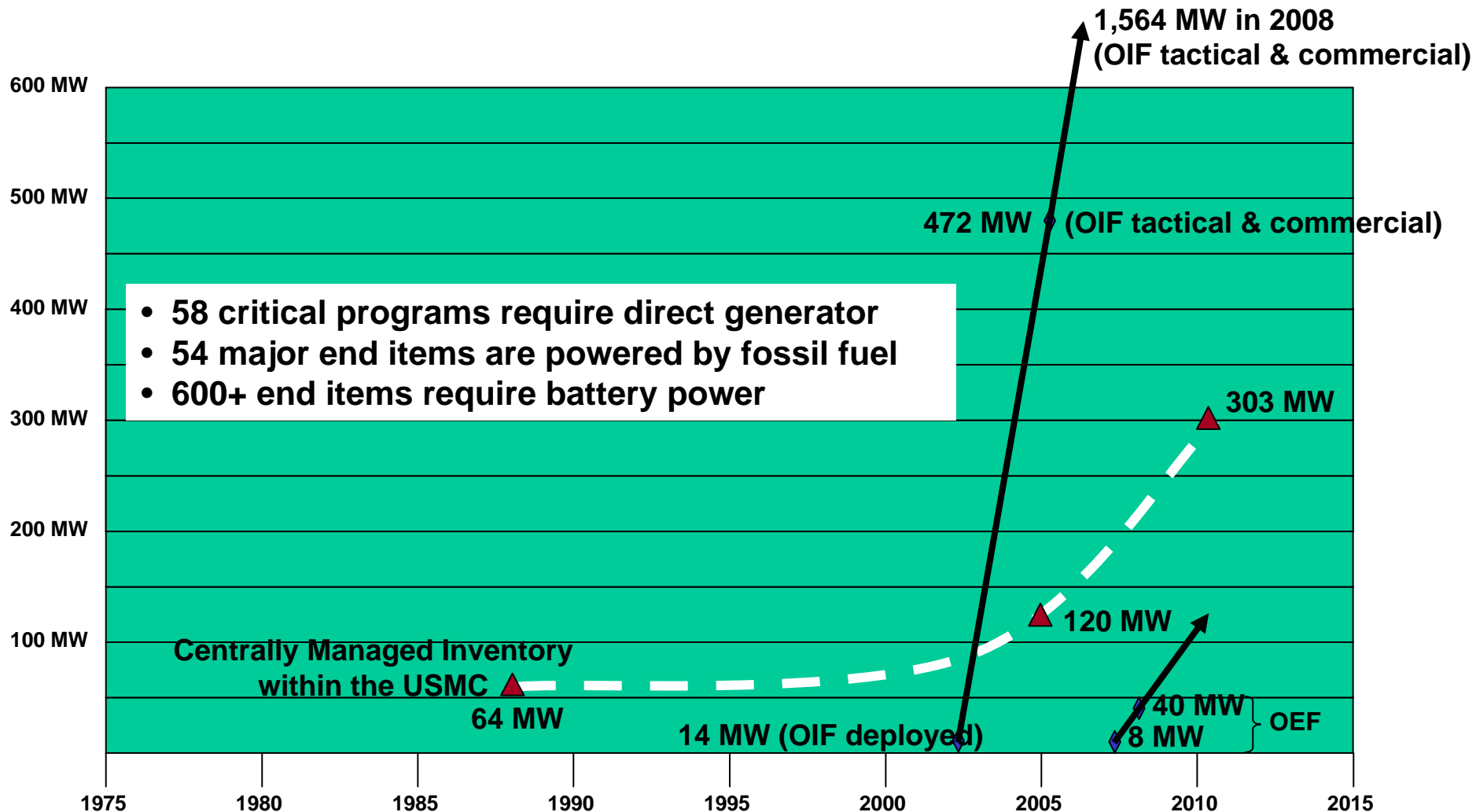
- 250% Increase in Radios
- 300% Increase in IT/Computers
- 200% Increase in # of Vehicles
- 75% Increase in Vehicle WGT
- 30% Decrease in MPG
 - MTRV – 4.3 MPG
 - HMMWV – 8.0 MPG
 - MRAP – 4.0 MPG



150 Marines conducting operations
that 1,000 Marines plus conducted 10
years ago!



“Effect” Need for Power









RC SW Logistics (MLG)

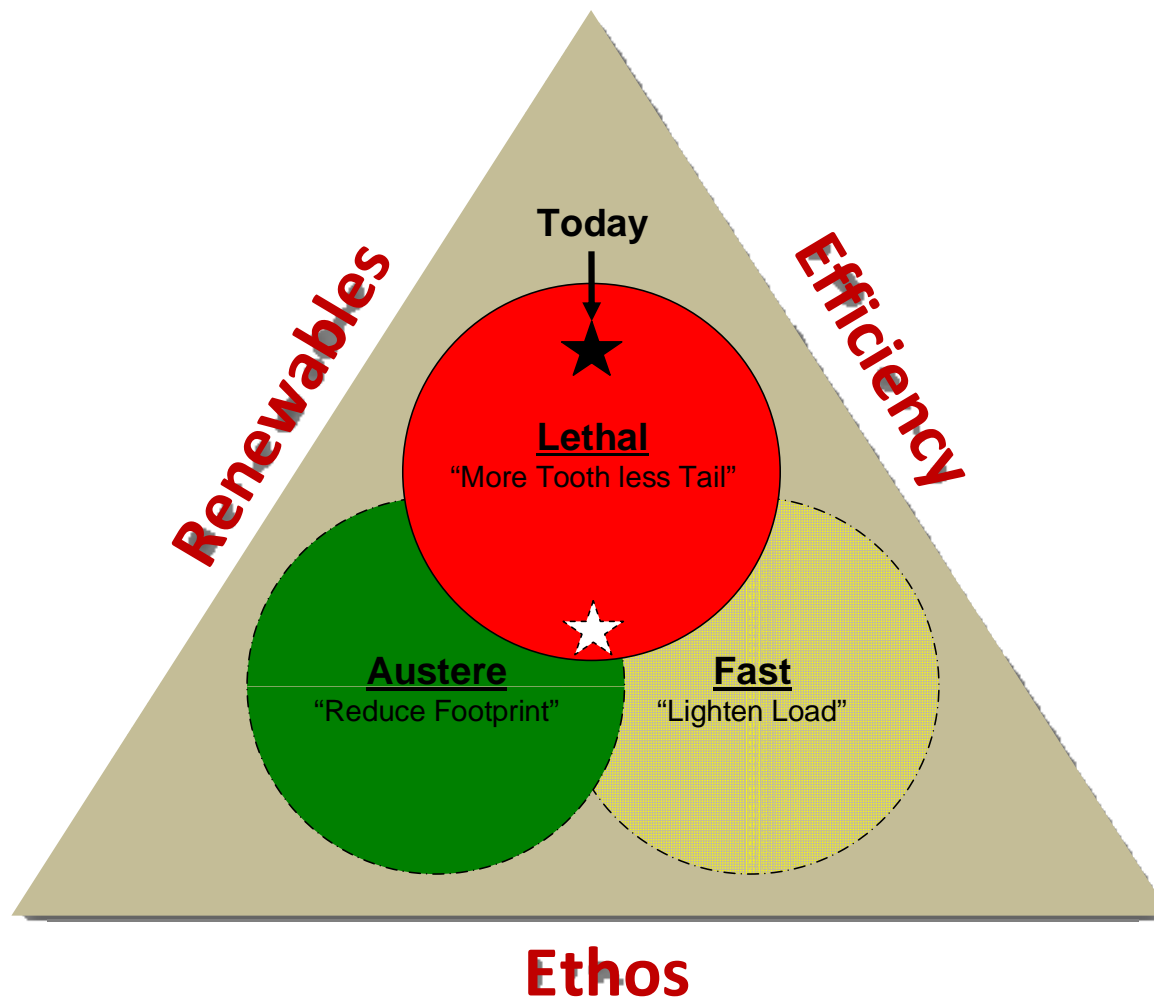
24 Mar 10 – 30 Jun 10



- 299 Fuel/Water Convoys (98 Days)
- **6 Marines WIA** hauling Fuel/Water
- **1 Marine WIA per 50 Fuel/Water Convoys**



Reducing Risk Increasing Effectiveness



35th Commandant's Planning Guidance

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Energy Strategy POA&M

"Bases-to-Battlefield"



**Change Ethos + Increase Energy Efficiency + Renewable Energy =
Increase Combat Effectiveness**

Today

Nov 11

Dec 10

2011

2025

Fossil Fuel

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Per Marine

**USMC
Expeditionary
Energy
Strategy
(In Staffing)**

**Joint
Expeditionary
Energy, Water,
and Waste
CBA / ICD
(In Work)**

**Direct
S&T / R&D
Solutions
DOTMLPF**

Alternative Fuel

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Fuel
1Gal

Per Marine

**Strategy and Supporting Requirements
Documents Being Written in Parallel**

**Future Capability
Require Mobility Fuels Only
50% From Alternatives**



Experimental Forward Operating Base (ExFOB)



Objectives:

- Phase I/II - Evaluate COT technologies for training and deployment to OEF
- Phase III – Extended User Evaluations
- Phase IV – Demonstrate Less Mature Solutions
- Phase V – Aug 11

Approach:

- Joint Approach
- Contracting, Legal, and Fiscal
- Rapid Evaluation of Technology
- Training and Deployment Most Promising Technology
- Evaluation and Feedback
- Expedite Programs of Record



Implementation Schedule:

- African Lion – 10 May – 17 May
- Enhanced Mojave Viper – July 10
- 3/5 Deploy – Sep 10

Cost:

- Phase I/II - \$2.5M (Purchase of Gear Included)
- Phase III - \$500K (Training Costs)
- Phase IV - \$500K
- Phase IV Follow-On \$650K
- Total Cost to Date - \$4.15M



ExFOB Spin-Offs



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ExFOB Spin-Offs



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Behavior Change



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